

REMARKS

Claims 1-24, as amended, remain. Support for the amendments to the claims may be found, for example, in applicants' specification at p. 9, line 18—p. 10, line 6, and in Figs. 1A, 1C, and 3A-3C. No new matter has been added.

1. Replacement Figs. 1A-9B are enclosed, replacing Figs. 1A-9B of applicants' International Application PCT/JP 2004/006630.

2. The Examiner objected to the abstract for including the word "comprising." The abstract has been amended to omit the word "comprising," mooted the objection.

3. Claims 3, 4, 6, 9, 11-13, 15, and 16 were objected to. The amendments to claims 3, 4, and 6 moot the objections to the claims. Claims 5, 7 and 8 have also been amended to moot the objections to claims 9, 11-13, 15, and 16, respectively.

4. Claims 1, 2, and 17-24 were rejected under 35 U.S.C. § 112, second paragraph. The Examiner stated that the language of claim 1 including "the inner coil group taken as a virtual disc while covering the inner coil group" was unclear. Claim 1 is amended to recite "an outer coil group formed by arranging a plurality of hollow outer coil bodies of a prescribed shape wound with a conductor of a prescribed number of turns on portions of said outer peripheral side surfaces of the virtual disc or disc-shaped core not covered by the inner coil group." This amendment to claim 1 clarifies that the outer coil group is wound around portions of the "virtual disc."

The Examiner stated that the claim language of claim 2 was unclear, because the Examiner did not understand how the peripheral side surface of the inner coil group could be "externally flush" with the peripheral side surface of the outer coil group. Claim 2 is amended to recite that "the outer peripheral surface of the inner coil group is externally flush with the outer peripheral surface of the outer coil group, such that a curve tangential to the outer peripheral surfaces of the inner and outer coil groups forms a circle." In other words, the external surfaces

of the inner and outer coil groups are flush, because they are located along the same circular curve and combine to form a substantially circular shape, as shown in applicants' Fig. 1.

Claims 17-24 are amended to clarify that "respective coil bodies" refers to "respective inner and outer coil bodies."

Applicants believe that the above amendments and explanations overcome the rejection of claims 1, 2, and 17-24 under 35 U.S.C. § 112, second paragraph. Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

5. The Examiner rejected claims 1 and 2 under 35 U.S.C. § 102(b) over Iwasaki, U.S. Patent 4,712,034. Iwasaki discloses a DC motor that includes a central disk and windings around the disk. The windings include multiple layers, and the outer layers of windings may cover part of the inner layers of windings, as shown in Iwasaki Fig. 5. However, Iwasaki fails to disclose that "the inner coil group and outer coil group combined cover substantially all of the outer peripheral side surfaces of the virtual disc or disc-shaped core," as recited in applicants' amended claim 1 and shown, for example, in applicants' Figs. 1A and 3C. On the contrary, Iwasaki discloses windings that leave large uncovered gaps on the armature 32 (see Iwasaki, Fig. 8, for example). These large gaps disclosed in Iwasaki decrease the efficiency of power generation of the motor.

Since Iwasaki fails to disclose every element of applicants' claim 1, Iwasaki is an inadequate basis for rejecting claims 1 and 2 under 35 U.S.C. § 102(b). Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

6. The Examiner rejected claims 3 and 4 under 35 U.S.C. § 103(a) over Iwasaki and Ban, U.S. Patent 4,197,475. As discussed above, Iwasaki fails to disclose every element of applicants' claim 1, upon which claims 3 and 4 depend. Ban fails to disclose what Iwasaki lacks. Ban discloses inner and outer windings offset from each other by 60 degrees. However, combining Ban with Iwasaki would not result in "the inner coil group and outer coil group combined covering substantially all of the outer peripheral side surfaces of the virtual disc or disc-shaped core," as recited in applicants' amended claim 1. To the contrary, combining an arrow-shaped winding of Iwasaki Fig. 1 with a multilayered, offset winding disclosed in Ban

would result in a winding similar to Iwasaki Figs. 5 and 8, where substantial portions of the armature are uncovered. As discussed above, these large gaps decrease the efficiency of the power generation of the motor.

Nor would it have been obvious to one of ordinary skill in the art to modify or combine Iwasaki and Ban to provide every element of applicants' claims 3 and 4. Iwasaki discloses windings of a narrow "arrow" and "loop" shape, respectively (see Iwasaki Figs. 1 and 8). Ban discloses windings that combine to form a cylindrical shape (see Ban, Figs. 5a, 5b). Nothing in Ban or Iwasaki provides any motivation to one of ordinary skill to provide the windings of Iwasaki with the offset disclosed in Ban. Nor do the references provide any motivation for covering substantially all of the outer peripheral side surfaces of a virtual disc in Iwasaki with first and second windings.

For the foregoing reasons, Iwasaki and Ban are inadequate grounds for rejecting claims 3 and 4 under 35 U.S.C. § 103(a). Applicants respectfully ask that the Examiner reconsider and withdraw the rejection.

7. The Examiner rejected claims 5, 6, 9, 10, 13 and 14 under 35 U.S.C. § 103(a) over Iwasaki and Asaba, U.S. Patent Application Publication 2004/0164638. As discussed above, Iwasaki fails to disclose every element of applicants' claim 1, from which claims 5, 6, 9, 10, 13 and 14 depend. Asaba fails to disclose what Iwasaki lacks. Like Iwasaki, Asaba discloses a winding that leaves large uncovered gaps on a ring-shaped magnet.

Nor do either Iwasaki or Asaba contain any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasaki and Asaba are inadequate grounds for rejecting claims 5, 6, 9, 10, 13, and 14 under 35 U.S.C. § 103(a). Applicants respectfully ask that the Examiner reconsider and withdraw the rejection.

8. The Examiner rejected claims 17 and 18 under 35 U.S.C. § 103(a) over Iwasaki and Ban, JP 05-227716. As discussed above, Iwasaki fails to disclose every element of applicants' claim 1, from which claims 17 and 18 depend. Ban-JP fails to disclose what Iwasaki

lacks. Like Iwasaki, Ban-JP discloses a winding that leaves large uncovered gaps on an armature.

Nor do either Iwasaki or Ban-JP contain any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasaki and Ban-JP are inadequate grounds for rejecting claims 17 and 18 under 35 U.S.C. § 103(a). Applicants ask that the Examiner reconsider and withdraw the rejection.

9. The Examiner rejected claims 7, 8, 11, 12, 15, and 16 under 35 U.S.C. § 103(a) over Iwasaki, Ban, and Asaba. As discussed above in Sections 6 and 7, Iwasaki, Ban, and Asaba fail to disclose every element of applicants' claim 1, from which claims 7, 8, 11, 12, 15, and 16 depend, and none of Iwasaki, Ban, and Asaba contain any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasaki, Ban, and Asaba are inadequate grounds for rejecting claims 7, 8, 11, 12, 15, and 16 under 35 U.S.C. § 103(a). Applicants ask that the Examiner reconsider and withdraw the rejection.

10. The Examiner rejected claims 19 and 20 under 35 U.S.C. § 103(a) over Iwasaki, Ban, and Ban-JP. As discussed above in Sections 6 and 8, Iwasaki, Ban, and Ban-JP fail to disclose every element of applicants' claim 1, from which claims 19 and 20 depend. Further, as discussed above, none of Iwasaki, Ban, and Ban-JP contains any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasakik, Ban, and Ban-JP are inadequate grounds for rejecting claims 19 and 20 under 35 U.S.C. § 103(a). Applicants ask that the Examiner reconsider and withdraw the rejection.

11. The Examiner rejected claims 21 and 22 under 35 U.S.C. § 103(a) over Iwasaki, Asaba, and Ban-JP. As discussed above in Sections 7 and 8, Iwasaki, Asaba, and Ban-JP fail to disclose every element of applicants' claim 1, from which claims 21 and 22 depend. Further, as discussed above, none of Iwasaki, Asaba, and Ban-JP contains any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasaki, Asaba, and Ban-JP are inadequate grounds for rejecting claims 21 and 22 under 35 U.S.C. § 103(a). Applicants ask that the Examiner reconsider and withdraw the rejection.

12. The Examiner rejected claims 23 and 24 under 35 U.S.C. § 103(a) over Iwasaki, Ban, Asaba, and Ban-JP. As discussed above in Sections 6-8, Iwasaki, Ban, Asaba, and Ban-JP fail to disclose every element of applicants' claim 1, from which claims 23 and 24 depend. Further, as discussed above, none of Iwasaki, Ban, Asaba, and Ban-JP contains any disclosure that would have motivated one of ordinary skill to modify or combine the references to provide every element of applicants' claims.

For the foregoing reasons, Iwasaki, Ban, Asaba, and Ban-JP are inadequate grounds for rejecting claims 23 and 24 under 35 U.S.C. § 103(a). Applicants ask that the Examiner reconsider and withdraw the rejection.

CONCLUSION

In light of the foregoing amendments and remarks, Applicant respectfully requests that the pending claims be allowed. The Commissioner is authorized to apply any charges or credits to deposit account 19-4293.

Respectfully submitted,

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Adam C. Ellsworth 55,152
Harold H. Fox
Reg. No. 41,498

Steptoe & Johnson LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Telephone: 202-429-3000
Facsimile: 202-429-3902